Abstract ID : 778

Title : CIRCADIAN AND INFRADIAN RHYTHMS IN THE BEHAVIOR OF CAPTIVE BELUGA WHALES

Category : Behavior

Student : B.A./B.S.

Preferred Format : Poster Presentation

Abstract : The periodic cyclicity that captive animals show in their behavior holds the prospect of providing insight into both their natural tendencies and their adaptations to their present circumstances. The present study derived from seven separate 24hour/day video+hydrophone recordings carried out at Marineland of Canada. Our subjects were 11 beluga whales (Delphinapterus leucas), four adult males, seven adult females. We simultaneously recorded the time of occurrence of each vocalization and the state of motion of the whales over the course of 84 hours sampled from these tapes. Overall, there was a clear circadian pattern of activity that peaked between 1000 and 1300 hours. For example, periods of "fast swimming" were 4 times more common at midday than in the early morning hours ($ChiSq(1) = 11.3$, $p < .01$), and vocalizations associated with an aroused state were seven times more common at this time ($ChiSq(1) = 21.9$, $p < .001$). However, this overall circadian pattern was punctuated with a shorter rhythm that appeared to be entrained to the periodic feeding sessions carried by the animal care staff. Immediately following most feeding sessions, the whales went into brief periods of inactivity in which surface resting and an absence of vocalizations predominated. These post-prandial quiet periods were characteristically 20-60 min in length and they appeared as distinct exceptions to the heightened activity that was otherwise characteristic of midday.